

IN THE CLAIMS

1. (Currently Amended) A fiberglass insulation binder composition comprising:
_____ a binder pre-mix including a polycarboxy polymer, and a polyhydroxy crosslinking
agent, a surfactant, and
_____ sufficient water in an amount such that said binder composition includes to provide a
mixture comprising up to 98 wt % water based on the total weight of solids in the binder
composition mixture; and, said
_____ a surfactant, said surfactant being added to said binder pre-mix in an amount
sufficient to control the surface tension of said binder composition to less than the surface
tension of an equivalent weight percent solids phenolic binder composition.

2 - 3. (Canceled)

4. (Original) The fiberglass insulation binder composition of claim 1, wherein
the polycarboxy polymer is a polyacrylic acid polymer.

5. (Currently Amended) A process for producing a fiberglass insulation binder comprising the steps of:

forming a polycarboxy polymer;
~~preparing a mixture of a~~ combining said polycarboxy polymer; a polyhydroxy crosslinking agent, a surfactant, and ~~sufficient water to provide~~ form a mixture, said mixture including comprising up to 98 wt % water based on the total weight of solids in the said mixture, and said surfactant being added being present in said mixture in an amount sufficient to control the surface tension of the binder to less than or about 66 dyne/cm₂; and
blending the said mixture to form a polymeric composition useful as a fiberglass insulation binder.

6. (Original) The process of claim 5, wherein the amount of surfactant employed ranges from about 0.01 to about 10 weight percent based on the total weight of binder solids.

7. (Original) The process of claim 6, wherein the amount of surfactant employed ranges from about 0.2 to about 5 weight percent based on the total weight of binder solids.

8. (Original) The process of claim 5, wherein a pre-mixture containing the polymer and crosslinking agent comprises about 50 to 60 wt-% water.

9. (Original) The process of claim 5, further comprising the step of adding a hydrolyzed silane coupling agent to the mixture.

10. (Currently Amended) The process of claim 9, wherein the weight of said hydrolyzed silane coupling agent added to said mixture is from 0.01 to 10 wt-% based upon the weight of the mixture.

11. (Canceled)

12. (Currently Amended) The process of claim 1, wherein a mineral oil dust suppressing agent is added to said mixture in an amount up to 20 wt % based upon the weight of the mixture.

13. (Original) The process of claim 5, wherein the polycarboxy polymer is a polyacrylic acid polymer.

14 – 17 (Canceled)

18. (Currently Amended) A process for manufacturing a fiberglass insulation product, ~~which comprises~~ comprising the steps of:

- ~~— supplying melted glass to a fiber forming device;~~
- ~~— blowing said melted glass downwardly within a forming chamber of said forming device to attenuate glass fibers;~~
- mixing a polycarboxy polymer and a polyhydroxy crosslinking agent to form a binder pre-mix having approximately 50 – 60 wt % water;

Application No.: 09/871,467
Attorney Docket No.: 25094A

adding a surfactant to said binder pre-mix to form a fiberglass binder composition,
said surfactant being added to said binder pre-mix in an amount sufficient to control the
surface tension of said binder composition to less than the surface tension of an equivalent
weight percent solids phenolic binder composition;

applying a said binder composition to glass fibers including a polycarboxy polymer, a
polyhydroxy crosslinking agent, a surfactant, and sufficient water to provide a mixture
having up to 98 wt% water based on the total weight of solids onto said glass fibers, said
surfactant being added in an amount sufficient to control the surface tension to less than the
surface tension of an equivalent weight percent solids phenolic binder;

~~depositing said glass fibers onto a foraminous forming conveyor within said forming~~
~~chamber;~~

~~gathering and forming said glass fibers into a mat on said conveyor, wherein residual~~
~~heat contained in said glass fibers and said vacuum volatilizes said water, and~~

curing the said mat.

19. (Currently Amended) The process of claim 18, wherein said curing step comprises:
conveying said mat through a curing oven at a temperature from about 200°C to 350°C (392°F to 617°F) for a time period of from about 30 seconds to 3 minutes.
20. (Canceled)
21. (Currently Amended) The binder composition of claim 1, wherein the surface tension of the binder composition is less than or about 65.75 dyne/cm.
22. (Canceled)
23. (Currently Amended) The binder composition of claim ~~22~~ 21, wherein the surface tension of the binder composition is less than or about 60.54 dyne/cm.
24. (Currently Amended) The process ~~for producing a binder composition of~~ claim 5, wherein the surface tension of the binder is less than or about 65.75 dyne/cm.
25. (Canceled)
26. (Currently Amended) The process of claim ~~25~~ 24, wherein the surface tension of the binder is less than or about 60.54 dyne/cm.

27. (Currently Amended) The process for ~~manufacturing a fiberglass insulation product~~ of claim 18, wherein the surface tension of the binder composition is less than or about 65.75 dyne/cm.

28. (Canceled)

29. (Currently Amended) The process of claim ~~28~~ 27, wherein the surface tension of the binder composition is less than or about 60.54 dyne/cm.

30. (New) The fiberglass insulation binder composition of claim 1, wherein said polyhydroxy crosslinking agent is a polyol having two or more hydroxyl groups selected from the group consisting of glycerol, trimethylolpropane, 1,2,4-butanetriol, ethyleneglycol, 1,3-propanediol, 1,4-butanediol, 1,6-hexanediol, pentaerythritol and sorbitol.

31. (New) The process of claim 5, wherein said polyhydroxy crosslinking agent is a polyol having two or more hydroxyl groups selected from the group consisting of glycerol, trimethylolpropane, 1,2,4-butanetriol, ethyleneglycol, 1,3-propanediol, 1,4-butanediol, 1,6-hexanediol, pentaerythritol and sorbitol.

32. (New) The process of claim 18, wherein said polyhydroxy crosslinking agent is a polyol having two or more hydroxyl groups selected from the group consisting of glycerol, trimethylolpropane, 1,2,4-butanetriol, ethyleneglycol, 1,3-propanediol, 1,4-butanediol, 1,6-hexanediol, pentaerythritol and sorbitol.